

Global Data Center Rack Server Market Size, Growth, Industry Trends | Emergen Research

As more firms employ IoT devices to collect and analyze data closer to the edge, the need for local data centers grows.

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/EINPresswire.com/ -- The global [data center rack server market](#) is projected to expand significantly, growing from an estimated USD 6,854.2 million in 2024 to USD 12,413.5 million by 2033, at a compound annual growth rate (CAGR) of 6.5%. This growth is driven by the rising adoption of cloud computing, increased demand for high-performance computing (HPC), and the rapid digital transformation across various industries.



Data center rack servers play a critical role in managing the increasing volume of data generated globally. The demand for scalable, efficient, and high-density rack servers is fueled by the proliferation of advanced technologies like artificial intelligence (AI), machine learning (ML), and the Internet of Things (IoT). Additionally, the shift to hybrid and edge computing is further driving investments in data center infrastructure, including rack servers.

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Market Drivers

Technological advancements in data center infrastructure are a primary growth driver for the rack server market. Innovations such as high-density servers, modular racks, and enhanced cooling systems have enabled improved energy efficiency and performance. The integration of AI and ML in rack server management is enhancing operational efficiency by optimizing workloads, reducing energy consumption, and ensuring proactive maintenance.

The growing need for edge computing and colocation services has also significantly boosted the adoption of rack servers. Enterprises are increasingly deploying edge data centers to reduce latency and improve real-time processing capabilities, which has amplified demand for compact and scalable rack server solutions.

Market Challenges

Despite the promising advancements, the high initial investment in data center rack servers poses a challenge, particularly for small and medium-sized enterprises (SMEs). The costs associated with purchasing, configuring, and maintaining high-performance rack servers can be prohibitive. Furthermore, energy consumption and cooling requirements in high-density data centers add to operational expenses.

Additionally, ensuring cybersecurity and data integrity in modern data centers is an ongoing challenge. The integration of AI-driven threat detection systems and secure configurations is critical to addressing these vulnerabilities and ensuring robust data protection.

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Segment Insights

Rack servers for hyperscale data centers dominate the market, owing to their ability to handle massive computational workloads. Hyperscale facilities, primarily driven by cloud providers, require rack servers optimized for scalability, efficiency, and performance, making them essential in this segment.

On the other hand, edge computing represents the fastest-growing segment of the market. The rise of IoT devices and the need for real-time data processing are driving edge data center deployments, where compact and energy-efficient rack servers play a pivotal role. Emerging markets, in particular, are witnessing significant growth in edge infrastructure development, enabling businesses to meet localized processing needs.

Key Players in the Global Data Center Rack Server Market

Some of the major companies in the data center rack server market include:

Dell Technologies Inc.
Hewlett Packard Enterprise Development LP (HPE)
Lenovo Group Limited
Cisco Systems, Inc.
IBM Corporation
Oracle Corporation

Fujitsu Limited

Super Micro Computer, Inc.

Quanta Computer Inc.

Inspur Systems Inc.

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Data Center Rack Server Market Latest Industry Updates

In March 2022, Dell Technologies announced the launch of its PowerEdge XR11 and XR12 rack servers, designed for edge environments. These servers feature enhanced durability and performance, catering to businesses expanding their edge operations.

In November 2021, Lenovo introduced its ThinkSystem SR645 and SR665 rack servers with the latest AMD EPYC processors. These servers offer advanced computing power and flexibility for data-intensive applications in enterprise and cloud environments.

Market Segmentation Analysis

By Component Outlook (Revenue, USD Million; 2020-2033)

Hardware

Chassis

Processors

Memory

Networking Components

Others

Software

Services

By Form Factor Outlook (Revenue, USD Million; 2020-2033)

1U Rack Servers

2U Rack Servers

4U Rack Servers

Others

By End-user Outlook (Revenue, USD Million; 2020-2033)

Hyperscale Data Centers

Colocation Data Centers

Edge Data Centers

Enterprise Data Centers

By Regional Outlook (Revenue, USD Million; 2020-2033)

North America

United States

Canada

Mexico
Europe
Germany
France
United Kingdom
Italy
Spain
Benelux
Rest of Europe
Asia-Pacific
China
India
Japan
South Korea
Rest of Asia-Pacific
Latin America
Brazil
Rest of Latin America
Middle East and Africa
Saudi Arabia
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